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TITLE: MANUFACTURE OF SEMICONDUCTOR DEVICE

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INVENTOR-INFORMATION:

NAME

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INT-CL (IPC): H01L029/78; G11C011/40 ; H01L027/10

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ABSTRACT:

PURPOSE: To obtain an NMOS nonvolatile memory, in which leakage, etc. to a gate electrode are not generated, by efficiently capturing intruding charges to the interface of silicon oxide film-silicon nitride film through a tunnel effect.

CONSTITUTION: Source-drain 102 are formed to an N type substrate, and the silicon oxide film 103 with  $200\sim 500\text{\AA}$  thickness is shaped to the gate section. The silicon oxide film 103 is thermally nitrided while leaving  $50\sim 100\text{\AA}$  thickness in an aluminum and nitrogen atmosphere, and the silicon nitride film 104 is formed. When the film thickness of the silicon nitride film is insufficient, another one silicon nitride film 105 is shaped through a method such as a plasma DVD method, and thermally treated through

hydrogen sintering, and defects are reduced. Lastly,  
aluminum is shaped as the  
gate electrode 106, and the NMOS element is completed.

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